

## KEAP1 Rabbit monoclonal antibody

Catalog: MB66441

Host: Rabbit

Reactivity: Human, Mouse

### BackGround:

The nuclear factor-like 2 (NRF2) transcriptional activator binds antioxidant response elements (ARE) of target gene promoter regions to regulate expression of oxidative stress response genes. Under basal conditions, the NRF2 inhibitor INrf2 (also called KEAP1) binds and retains NRF2 in the cytoplasm where it can be targeted for ubiquitin-mediated degradation. Small amounts of constitutive nuclear NRF2 maintain cellular homeostasis through regulation of basal expression of antioxidant response genes. Following oxidative or electrophilic stress, KEAP1 releases NRF2, thereby allowing the activator to translocate to the nucleus and bind to ARE-containing genes. The coordinated action of NRF2 and other transcription factors mediates the response to oxidative stress. Altered expression of NRF2 is associated with chronic obstructive pulmonary disease (COPD). NRF2 activity in lung cancer cell lines directly correlates with cell proliferation rates, and inhibition of NRF2 expression by siRNA enhances anti-cancer drug-induced apoptosis. KEAP1 contains an amino terminal BTB/POZ domain and a carboxyl terminal KELCH domain. The KELCH domain is required for interaction with NRF2, and the BTB/POZ domain functions in binding Cul3 E3 ubiquitin ligase. Under normal conditions, the complex leads to the cytoplasmic sequestration and ubiquitin-mediated proteasomal degradation of NRF2. Electrophilic modification of KEAP1 leads to disassociation of the NRF2/KEAP1 complex. KEAP1 also targets the down regulation of NF- $\kappa$ B activity by targeting IKK $\beta$  degradation. Mutation of the corresponding KEAP1 gene is seen in lung cancer cases and can lead to uncontrolled activation of NRF2.

### Product:

Liquid in 50mM Tris-Glycine (pH 7.4), 0.15M NaCl, 50% Glycerol, 0.01% Sodium azide and 0.05% BSA.

### Molecular Weight:

~ 60 kDa

### Swiss-Prot:

Q14145

### Purification&Purity:

The antibody was purified by immunogen affinity chromatography.

### Applications:

WB (1/500 - 1/1000), IHC (1/50 - 1/100)

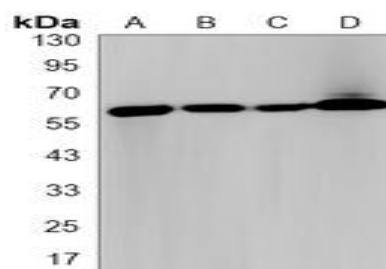
### Storage&Stability:

Store at 4 °C short term. Aliquot and store at -20 °C long term. Avoid freeze-thaw cycles.

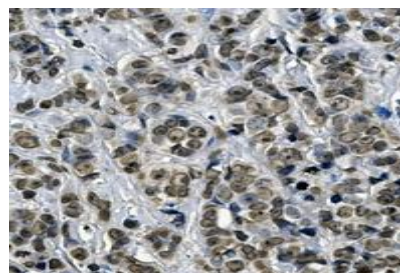
### Specificity:

Recognizes endogenous levels of KEAP1 protein.

### DATA:



Western blot analysis of KEAP1 expression in Raw264.7 (A), Hela (B), A549 (C), C2C12 (D) whole cell lysates.



Immunohistochemical analysis of KEAP1 staining in human breast carcinoma formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.22). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then

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## PRODUCT DATA SHEET

Bioworld Technology, Inc.

counterstained with haematoxylin and mounted with DPX.

For research use only, not for use in diagnostic procedure.

Note:

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